Serial No. 10/624,421
Title: MULTIPLE FLASH MEMORY DEVICE MANAGEMENT

IN THE CLAIMS

- (Currently amended) A method for managing multiple memory devices over a range of logical <u>memory</u> addresses, the method comprising:
 - receiving a command comprising a first logical <u>memory</u> address from the range of logical <u>memory</u> addresses;
 - accessing a look-up table having logical <u>memory</u> addresses with their corresponding physical <u>memory</u> addresses from one of the plurality of ranges of physical <u>memory</u> addresses to find a first physical <u>memory</u> address, from a range of physical <u>memory</u> addresses, that corresponds to the first logical <u>memory</u> address; and
 - generating a chip select signal in response to the first physical <u>memory</u> address; wherein the plurality of ranges of physical <u>memory</u> addresses include non-contiguous physical <u>memory</u> address space.
- (Currently amended) The method of claim 1 wherein the range of physical memory addresses is contiguous.
- (Currently amended) The method of claim 1 wherein the range of physical memory addresses is substantially equivalent to the range of logical memory addresses.
- (Original) The method of claim 1 wherein the multiple memory devices are flash RAM devices.
- (Currently amended) The method of claim 1 wherein the range of logical <u>memory</u> addresses are contiguous and the corresponding range of physical <u>memory</u> addresses is non-contiguous and comprised of a plurality of physical <u>memory</u> address sub-ranges.
- (Currently amended) The method of claim 5 wherein a chip select signal is generated for each physical memory address sub-range.

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 (Currently amended) A method for managing multiple flash memory devices over a range of logical memory addresses, the method comprising:

> receiving a command comprising a first logical <u>memory</u> address from the range of logical <u>memory</u> addresses;

accessing a look-up table having logical <u>memory</u> addresses with their corresponding physical <u>memory</u> addresses from one of the plurality of ranges of physical <u>memory</u> addresses to find a first physical <u>memory</u> addresses, from a range of non-contiguous physical <u>memory</u> addresses, that corresponds to the first logical <u>memory</u> address; and

generating a chip select signal in response to the first physical memory address.

- (Currently amended) The method of claim 7 wherein receiving the command comprises a
 controller circuit executing an application in which the first logical <u>memory</u> address is
 read from memory along with the command.
- (Currently amended) The method of claim 7 wherein receiving the command comprises a
 device manager receiving the first logical <u>memory</u> address from a controller circuit.
- (Currently amended) The method of claim 9 wherein the device manager generates the chip select signal in response to the first physical memory address.
- (Currently amended) A method for managing multiple flash memory devices over a range of logical memory addresses, the method comprising:

a controller circuit executing an application;

the controller circuit receiving a first logical <u>memory</u> address from the range of logical <u>memory</u> addresses in response to the execution of the application; accessing a look-up table having logical <u>memory</u> addresses with their corresponding physical <u>memory</u> addresses from one of the plurality of ranges of physical <u>memory</u> addresses to find a first physical <u>memory</u>

address, from a range of physical memory addresses comprising a

plurality of non-contiguous sub-ranges, that corresponds to the first logical memory address:

- outputting the first physical <u>memory</u> address to chip select generation circuitry; and
- the chip select generation circuitry generating a chip select signal in response to the first physical memory address.
- 12. (Currently amended) The method of claim 11 wherein each of the plurality of non-contiguous sub-ranges is substantially equal to a logical <u>memory</u> address range of a flash memory device of the multiple flash memory devices.
- 13. (Currently amended) An electronic system having a logical <u>memory</u> address map comprising a flash memory logical <u>memory</u> address range for a designed memory device, the system comprising:
 - a plurality of flash memory devices having a combined physical <u>memory</u> address range substantially equivalent to the flash memory logical <u>memory</u> address range;
 - a controller circuit coupled to the plurality of memory devices, the controller circuit adapted to access a look-up table stored in memory and comprising a plurality of logical memory addresses with their corresponding physical memory addresses to find a first physical memory address from the combined physical memory address range, comprising a non-contiguous physical memory address space, in response to a first logical memory address received from an executing software application; and
 - a chip select generation circuit coupled to the controller circuit and the plurality of memory devices, the chip select generation circuit transmitting a chip select signal to one of the plurality of memory devices in response to the first physical memory address.
- (Original) The system of claim 13 wherein the controller circuit is coupled to the plurality
 of flash memory devices through a plurality of address lines.

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15. (Canceled)

- 16. (Currently amended) The system of claim 13 wherein the controller circuit generates the first physical <u>memory</u> address in response to adding an address offset to the first logical memory address.
- 17. (Currently amended) An electronic system having a logical memory address map stored in memory comprising a flash memory logical memory address range for a designed memory device with corresponding physical memory addresses, the system comprising:
 a processor that executes a software application, thereby generating a first logical memory address;
 - a plurality of flash memory devices having a combined physical <u>memory</u> address range, comprising a non-contiguous physical <u>memory</u> address space, substantially equivalent to the flash memory logical <u>memory</u> address range, the plurality of flash memory devices coupled to the processor over address lines; and
 - a device manager coupled to the plurality of flash memory devices and the processor, the device manager comprising:
 - a controller function adapted to access the logical <u>memory</u> address map and find a first physical <u>memory</u> address from the combined physical <u>memory</u> address range that corresponds to the first logical <u>memory</u> address; and
 - a chip select generation function capable of transmitting a chip select signal to one of the plurality of memory devices in response to the first physical memory address.

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 (Currently amended) The electronic system of claim 17 wherein the controller function adds an address offset to the logical <u>memory</u> address to generate the physical <u>memory</u> address.

 (Currently amended) In an electronic system that is controlled by a processor, a method for managing multiple flash memory devices over a range of logical <u>memory</u> addresses, the method comprising:

the processor executing a software application;

the processor receiving a first logical <u>memory</u> address from the range of logical <u>memory</u> addresses in response to the execution of the application;

the processor accessing a stored look-up table comprising the range of logical memory addresses with corresponding physical memory addresses to find a first physical memory address, from a range of physical memory addresses comprising a plurality of non-contiguous address sub-ranges, that corresponds to the first logical memory address:

the processor outputting the first physical <u>memory</u> address to chip select generation circuitry; and

the chip select generation circuitry transmitting a chip select signal, generated in response to the first physical <u>memory</u> address, to a first flash memory device of the multiple flash memory devices.